

Abstract:

**Testing of the Hermeticity of
Wafer Bond Connections and a Test Structure
for Implementing the Process**

A process and a test structure for testing the hermeticity of bond connections are described, which consist in that points are provided on the wafer pair (1, 2) to be connected, at which hermetically closed cavities (5) are additionally formed upon the connection of the wafers, as they are e.g. customary in microelectromechanical systems (MEMS). Respectively one pressure sensor structure (3) and a structure (4) are located in these cavities by means of which the internal pressure of the cavity can be changed from the outside, such as metal webs with narrowed cross-section which are built up in accordance with the principle of a fuse and, upon the generation of a current flow, melt or evaporate via the electrodes (8) that lead towards the outside of the cavity. The chronological change of the changed internal pressure is tracked in a measuring fashion.